

BEST AVAILABLE COPY

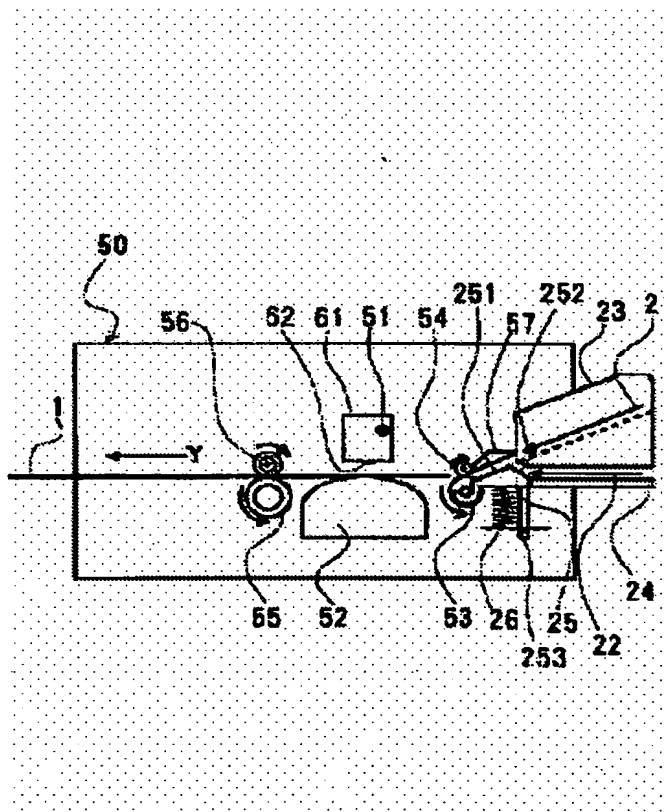
RECORDED MATERIAL GUIDE MEANS AND RECORDER

Patent number: JP2002128317
Publication date: 2002-05-09
Inventor: ASAWA HIROSHI; SHIMOMURA MASAKI; TAJIMA HIROYUKI; ISHIHARA KENJIRO; HASHIUCHI KOJI; ISONO MASAHIRO
Applicant: SEIKO EPSON CORP
Classification:
- international: B65H3/44; B65H5/36; B65H3/44; B65H5/36; (IPC1-7): B65H5/36; B65H3/44
- european:
Application number: JP20000319086 20001019
Priority number(s): JP20000319086 20001019

Report a data error here

Abstract of JP2002128317

PROBLEM TO BE SOLVED: To eliminate necessity for operation of a recorder in case of changing a recorded material feed path, by a recorded material guide means with no recorded material feed path manually switching means required, in the recorder having the first/second recorded material feed paths. **SOLUTION:** A guide member 25 provided in a position joining first/second recorded material feed paths 21, 22 to guide a recorded material 1 is energized in a fixedly existing position by an energizing means 26 in a condition journaling one end thereof by a conveying drive roller 53 to make the other end side capable of vertically swiveling. The guide member 25 has a first contacted part 251 constituting partly the first recorded material feed path in a first position which is the fixedly existing position and partly the second recorded material feed path in a second position and a second contacted part 252 formed so as to press downward the guide member 25 by press movement to a tip end of the recorded material 1 fed to the second recorded material feed path.



Data supplied from the esp@cenet database - Worldwide

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2002-128317

(P 2 0 0 2 - 1 2 8 3 1 7 A)

(43) 公開日 平成14年5月9日(2002.5.9)

(51) Int. Cl. ⁷B65H 5/36
3/44

識別記号

F I

B65H 5/36
3/44

テーマコード (参考)

3F101
H 3F343
F

審査請求 有 請求項の数 9 O L (全 9 頁)

(21) 出願番号 特願2000-319086(P 2000-319086)

(22) 出願日 平成12年10月19日(2000.10.19)

(71) 出願人 000002369

セイコーエプソン株式会社

東京都新宿区西新宿2丁目4番1号

(72) 発明者 麻和 博

長野県諏訪市大和3丁目3番5号 セイコーエプソン株式会社内

(72) 発明者 下村 正樹

長野県諏訪市大和3丁目3番5号 セイコーエプソン株式会社内

(74) 代理人 100095452

弁理士 石井 博樹

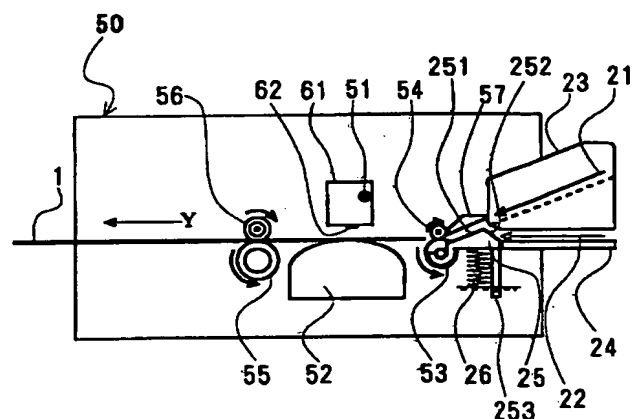
最終頁に続く

(54) 【発明の名称】 被記録材案内手段および記録装置

(57) 【要約】

【課題】 第1の被記録材給送路と第2の被記録材給送路とを有する記録装置において、被記録材給送路手動切換手段を必要としない被記録材案内手段により、被記録材給送路を変更する際の記録装置の操作を不要にする。

【解決手段】 第1の被記録材給送路21と第2の被記録材給送路22とが合流する位置に設けられた被記録材1を案内する案内部材25は、その一端が搬送駆動ローラ53に軸支されて、他端側が上下に揺動可能な状態で、付勢手段26により既定の位置に付勢されている。案内部材25は、既定の位置である第1の位置において、第1の被記録材給送路の一部を構成し、第2の位置において、第2の被記録材給送路の一部を構成する第1の被当接部251と、第2の被記録材給送路に給送される被記録材1の先端に押動されることで、案内部材25を下方に押動するように形成された第2の被当接部252を有している。



【特許請求の範囲】

【請求項1】 第1の被記録材給送路と、第2の被記録材給送路と、

前記第1の被記録材給送路と前記第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に設けられて、前記第1の被記録材給送路と前記第2の被記録材給送路から給送される被記録材を案内する被記録材案内手段とを備えた記録装置における被記録材案内手段であって、

前記被記録材案内手段は、既定状態において前記第1の被記録材給送路を構成する第1の位置に保持され、前記第2の被記録材給送路を搬送される被記録材によって、該第2の被記録材給送路を構成する第2の位置に移動可能に構成された、ことを特徴とした被記録材案内手段。

【請求項2】 請求項1において、前記被記録材案内手段は、上下に揺動可能に形成された案内部材と、該案内部材を該案内部材の揺動可能範囲における前記第1の位置に付勢する付勢手段とで構成され、

前記案内部材は、前記第1の位置において前記第1の被記録材給送路の一部を構成し、前記揺動可能範囲の第2の位置において前記第2の被記録材給送路の一部を構成する第1の被当接部と、前記第2の被記録材給送路を給送される被記録材の先端に押動されることで、前記案内部材を下方に押動するように形成された第2の被当接部とを有し、

前記案内部材は、前記付勢手段により前記第1の位置に既定され、前記第2の被記録材給送路を給送される前記被記録材の先端が、前記第2の被当接部を押動することで、前記案内部材が前記第2の位置に押動される、ことを特徴とした被記録材案内手段。

【請求項3】 請求項1または2において、前記記録装置は、副走査方向に回転し、前記被記録材を前記被記録材搬送路に搬送する被記録材搬送ローラを備え、前記案内部材の一端は、前記被記録材搬送ローラの回転軸に軸支されている、ことを特徴とした被記録材案内手段。

【請求項4】 請求項1～3のいずれか1項において、前記記録装置は、前記第1の被記録材給送路には自動給送装置により前記被記録材が給送され、前記第2の被記録材給送路には手動にて前記被記録材が給送される、ことを特徴とした被記録材案内手段。

【請求項5】 請求項1～4のいずれか1項において、前記付勢手段は、コイルスプリングによる付勢手段である、ことを特徴とした被記録材案内手段。

【請求項6】 請求項5において、前記案内部材は、前記被記録材の幅方向に長尺な外形を有する一つの部材にて構成され、前記コイルスプリングは、前記案内部材の中央部分近傍が下方にたわまないように、前記コイルスプリングによる付勢力が作用するように配置されている、ことを特徴とした被記録材案内手段。

【請求項7】 請求項1～6のいずれか1項において、

前記被記録材案内手段は、前記案内部材の揺動可能範囲における第1の位置を既定する手段を備える、ことを特徴とした被記録材案内手段。

【請求項8】 第1の被記録材給送路と、第2の被記録材給送路と、

前記第1の被記録材給送路と前記第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に設けられて、前記第1の被記録材給送路と前記第2の被記録材給送路から給送される被記録材を案内する被記録材案内手段とを備えた記録装置における被記録材案内手段であって、

前記被記録材案内手段は、前記第2の被記録材給送路を搬送される被記録材の先端が、該被記録材案内手段と関わりつつ進行するように構成された、ことを特徴とした被記録材案内手段。

【請求項9】 請求項1～8のいずれか1項に記載の被記録材案内手段を備える、ことを特徴とした記録装置。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】第1の被記録材給送路と第2の被記録材給送路とを有する記録装置において、第1の被記録材給送路と第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に設けられた、第1の被記録材給送路と第2の被記録材給送路とを給送される被記録材を案内する被記録材案内手段、およびそれを備えた記録装置に関する。

【0002】

【従来の技術】第1の被記録材給送路と第2の被記録材給送路とを有する記録装置は、一般的に第1の被記録材給送路には、被記録材給送トレイに置かれた被記録材が自動給送装置により給送され、第2の被記録材給送路には、手差しによって手動で被記録材が給送される構成になっている。

【0003】そして、第1の被記録材給送路と第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に、二つの給送路を切り換える案内部材を備え、案内部材を記録装置に設けられた切換レバーにより上下動させ、手動で切換レバーを操作することで、第1の被記録材給送路と第2の被記録材給送路とを切り換える被記録材給送路手動切換手段を備えている。

【0004】

【発明が解決しようとする課題】しかしながら、このような被記録材給送路手動切換手段は、被記録材給送路を変更する度に切換レバーを操作しなければならず、記録装置の操作が煩雑になる。また、切換レバーによる手動操作を誤る恐れがあり、これによって記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録し、被記録材を無駄にしてしまうという問題が生じることになる。

【0005】本願発明の課題は、第1の被記録材給送路

と第2の被記録材給送路とを有する記録装置において、被記録材給送路手動切換手段を必要としない被記録材案内手段により、被記録材給送路を変更する際の記録装置の操作を不要にし、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを防止することにある。

【0006】

【課題を解決するための手段】上記課題を達成するため、本願請求項1に記載の発明は、第1の被記録材給送路と、第2の被記録材給送路と、前記第1の被記録材給送路と前記第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に設けられて、前記第1の被記録材給送路と前記第2の被記録材給送路から給送される被記録材を案内する被記録材案内手段とを備えた記録装置における被記録材案内手段であって、該被記録材案内手段は、既定状態において前記第1の被記録材給送路を構成する第1の位置に保持され、前記第2の被記録材給送路を搬送される被記録材によって、該第2の被記録材給送路を構成する第2の位置に移動可能に構成された、ことを特徴とした被記録材案内手段である。ここで、「第2の被記録材給送路を搬送される被記録材によって、第2の被記録材給送路を構成する第2の位置に移動可能に構成されている」とは、第2の被記録材給送路をほぼ直線状態で厚紙等の剛性の高い用紙を搬送する場合に、当該被記録材案内手段はその用紙によって押し下げられるように構成されていることを意味する。

【0007】これにより、本願請求項1に記載の発明に係る被記録材案内手段は、第2の被記録材給送路を搬送される被記録材によって、第2の被記録材給送路を構成する第2の位置に移動可能に構成されていることで、被記録材給送路を手動で切換る必要が無く、被記録材給送路を変更する際の記録装置の操作を不要にし、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを防止できる。

【0008】本願請求項2に記載の発明は、請求項1において、前記被記録材案内手段は、上下に揺動可能に形成された案内部材と、該案内部材を該案内部材の揺動可能範囲における前記第1の位置に付勢する付勢手段とで構成され、前記案内部材は、前記第1の位置において前記第1の被記録材給送路の一部を構成し、前記揺動可能範囲の第2の位置において前記第2の被記録材給送路の一部を構成する第1の被当接部と、前記第2の被記録材給送路を給送される被記録材の先端に押動されることで、前記案内部材を下方に押動するように形成された第2の被当接部とを有し、前記案内部材は、前記付勢手段により前記第1の位置に既定され、前記第2の被記録材給送路を給送される前記被記録材の先端が、前記第2の被当接部を押動することで、前記案内部材が前記第2の

位置に押動される、ことを特徴とした被記録材案内手段である。

【0009】このように、本願請求項2に記載の発明に係る被記録材案内手段は、被記録材を第2の被記録材給送路に給送し、その被記録材の先端が案内部材の第2の被当接部を押動し、案内部材が第2の位置に押動されることにより、本願請求項1に記載の被記録材案内手段の作用効果をえられるものである。

【0010】本願請求項3に記載の発明は、請求項1または2において、前記記録装置は、副走査方向に回転し、前記被記録材を前記被記録材搬送路に搬送する被記録材搬送ローラを備え、前記案内部材の一端は、前記被記録材搬送ローラの回転軸に軸支されている、ことを特徴とした被記録材案内手段である。

【0011】これにより、本願請求項3に記載の発明に係る被記録材案内手段によれば、本願請求項1または2に記載の被記録材案内手段の作用効果に加えて、案内部材が被記録材給送ローラの回転軸を中心とした回転運動にて上下に揺動する構成であることで、第1の被記録材給送路と第2の被記録材給送路、どちらの被記録材給送路においても、被記録材を被記録材給送ローラの所定の位置に到達するように、被記録材を誘導することが可能となるものである。

【0012】本願請求項4に記載の発明は、請求項1～3のいずれか1項において、前記記録装置は、前記第1の被記録材給送路には自動給送装置により前記被記録材が給送され、前記第2の被記録材給送路には手動にて前記被記録材が給送される、ことを特徴とした被記録材案内手段である。

【0013】記録装置を上記のような構成とし、使用頻度の高い被記録材を自動給送装置により第1の被記録材給送路に給送し、必要に応じて第2の被記録材給送路に手動にて被記録材を給送し、記録を実行することで、案内部材が第2の位置に押動される頻度が少なくなる。従って、本願請求項4に記載の発明に係る被記録材案内手段によれば、本願請求項1～3のいずれか1項に記載の被記録材案内手段の作用効果に加えて、より効率的な被記録材の給送が可能となるものである。

【0014】本願請求項5に記載の発明は、請求項1～4のいずれか1項において、前記付勢手段は、コイルスプリングによる付勢手段である、ことを特徴とした被記録材案内手段である。

【0015】このように、コイルスプリングによる付勢手段であることで、該付勢手段において適切な付勢力を得る上で、付勢力の調節、あるいは付勢力の調節機構を設ける場合の該調節機構の実現が容易になり、より高い本願発明の作用効果がえられるものである。

【0016】本願請求項6に記載の発明は、請求項5において、前記案内部材は、前記被記録材の幅方向に長尺な外形を有する一つの部材にて構成され、前記コイルス

プリングは、前記案内材の中央部分近傍が下方にたわまないように、前記コイルスプリングによる付勢力が作用するように配置されている、ことを特徴とした被記録材案内手段である。

【0017】これにより、被記録材が搬送ローラにて搬送される際に、被記録材の中央近傍が下方にたわんだ状態で搬送されることがなくなる。本願請求項6に記載の発明に係る被記録材案内手段によれば、本願請求項5に記載の被記録材案内手段の作用効果に加えて、被記録材の中央近傍がたわんだ状態で搬送されることで生じる記録品質の低下を防止することが出来る。

【0018】本願請求項7に記載の発明は、請求項1～6のいずれか1項において、前記被記録材案内手段は、前記案内材の揺動可能範囲における第1の位置を既定する手段を備える、ことを特徴とした被記録材案内手段である。

【0019】これにより、本願請求項7に記載の発明に係る被記録材案内手段によれば、本願請求項1～6のいずれか1項に記載の被記録材案内手段の作用効果に加えて、案内材の揺動可能範囲における第1の位置を、より高い精度で適切な位置に既定することが可能となる。

【0020】本願請求項8に記載の発明は、第1の被記録材給送路と、第2の被記録材給送路と、前記第1の被記録材給送路と前記第2の被記録材給送路とが合流し、共通の被記録材搬送路となる位置に設けられて、前記第1の被記録材給送路と前記第2の被記録材給送路から給送される被記録材を案内する被記録材案内手段とを備えた記録装置における被記録材案内手段であって、該被記録材案内手段は、前記第2の被記録材給送路を搬送される被記録材の先端が、該被記録材案内手段と関わりつつ進行するように構成された、ことを特徴とした被記録材案内手段である。ここで、「被記録材の先端が、該被記録材案内手段と関わりつつ進行する」とは、後述するように、厚紙等の剛性の高い用紙の場合は、当該被記録材案内手段をその剛性によって押し下げて進行し、柔らかい用紙の場合は当該被記録材案内手段をほとんど押し下げずに乗り越えて進行するという意味である。

【0021】これにより、本願請求項8に記載の発明に係る被記録材案内手段によれば、第2の被記録材給送路を搬送される被記録材の先端が、被記録材案内手段と関わりつつ進行するように構成されていることで、被記録材給送路を手動で切換える必要が無く、被記録材給送路を変更する際の記録装置の操作を不要にし、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを防止できる。

【0022】本願請求項9に記載の発明は、請求項1～8のいずれか1項に記載の被記録材案内手段を備える、ことを特徴とした記録装置である。

【0023】本願請求項9に記載の発明に係る記録装置

によれば、記録装置において、前述した本願請求項1～8のいずれか1項に記載の被記録材案内手段による作用効果を得ることができる。

【0024】

【発明の実施の形態】以下、本願発明の実施の形態を図面に基いて説明する。図1は、本願発明に係る被記録材案内手段を備えた記録装置の概略の平面図であり、図2はその概略の側面図である。

【0025】記録装置50には、キャリッジガイド軸51に軸支され、主走査方向Xに移動するキャリッジ61、およびブラテン52が設けられている。キャリッジ61には、被記録材1にインクを吐出して記録を行う記録ヘッド62が搭載され、キャリッジ61を主走査方向Xに搬送し、キャリッジ61とブラテン52の間に被記録材1を副走査方向Yに搬送しながら、記録ヘッド62が被記録材1にインクを吐出することで被記録材1に記録が行われる。また、被記録材1を副走査方向Yに搬送する被記録材搬送手段として、搬送駆動ローラ53と搬送従動ローラ54が設けられている。搬送駆動ローラ53は、ステッピングモータ等の回転駆動力により回転制御され、搬送駆動ローラ53の回転により、被記録材1は副走査方向Yに搬送される。搬送従動ローラ54は複数設けられており、それぞれ個々に搬送駆動ローラ53に付勢され、被記録材1が搬送駆動ローラ53の回転により搬送される際に、被記録材1に接して被記録材1の搬送に従動して回転する。

【0026】一方、記録された被記録材1を排出する手段として、排出駆動ローラ55と排出従動ローラ56が設けられている。排出駆動ローラ55は、ステッピングモータ等の回転駆動力により回転制御され、排出駆動ローラ55の回転により、被記録材1は副走査方向Yに排出される。排出従動ローラ56は複数設けられ、周囲に複数の歯を有し、各歯の先端が被記録材1の記録面に点接触するように鋭角的に尖っている歯付きローラとなっている。そして、それぞれ個々に排出駆動ローラ55に搬送従動ローラ54の付勢力よりも弱い付勢力で付勢され、被記録材1が排出駆動ローラ55の回転により排出される際に、被記録材1に接して被記録材1の排出に従動して回転する。

【0027】また、記録装置50には、公知の自動トレイ23を備えた第1の被記録材給送路21と、手差しトレイ24から手差しにて被記録材1を給送する第2の被記録材給送路22とが設けられている。自動トレイ23には、被記録材1を第1の被記録材給送路21に給送する図示されてない被記録材給送ローラと、被記録材1の先端を被記録材給送ローラに圧接させる図示されてないホッパ等から成る被記録材自動給送手段が設けられている。自動トレイ23には、十分に柔軟性のある複数の被記録材1をあらかじめセットすることが可能な構成となっており、既定状態においては、記録実行時にこの自動

トレイ23から被記録材1が1枚ずつ自動的に給送される。手差しトレイ24は、必要に応じて被記録材1を1枚ずつ手でセットして給送するとともに、自動トレイ23から給送出来ない厚紙等の柔軟性のない材質の被記録材1に記録を行う際に使用される。

【0028】第1の被記録材給送路21と第2の被記録材給送路22とが合流し、共通の被記録材搬送路となる位置には、被記録材案内57と、第1の被記録材給送路21、および第2の被記録材給送路22から給送される被記録材1を案内する案内部材25が設けられている。案内部材25は、その一端が搬送駆動ローラ53に軸支されて、そこを支点に案内部材25の他端側が上下に揺動可能な状態で、コイルスプリングによる付勢手段26により既定の位置に付勢されている。そして、コイルスプリングは、案内部材25に対して、その中央部分近傍が下方にたわまないような付勢力が作用するように設けられ、それによって生じる記録品質の低下を防止している。尚、必要に応じてこのコイルスプリングの付勢力を調整する手段を設けることで、付勢力の微調整を行うことが可能なように構成することもできる。

【0029】また、案内部材25は、その既定の位置である第1の位置において、第1の被記録材給送路の一部を構成し、その揺動可能範囲の第2の位置において、第2の被記録材給送路の一部を構成する第1の被当接部251を有している。さらに、案内部材25は、第2の被記録材給送路に給送される被記録材1の先端に押動されることで、案内部材25を下方に押動するように形成された第2の被当接部252を有している。そして、案内部材25は、第1の位置より上方に揺動しないように、ストッパ253により規制され、それにより被記録材1が案内部材25を押し上げて、被記録材1が詰まったり、被記録材案内手段を破損してしまうことを防止している。

【0030】図3は、上述の記録装置50において、自動トレイ23から被記録材1が給送され、被記録材搬送手段により搬送される際の案内部材25と被記録材1との関わりを示した概略の側面図である。図3の(a)は、自動トレイ23にセットされた被記録材1が、被記録材自動給送手段により給送された状態を示している。案内部材25は既定状態の第1の位置に付勢された状態であり、第1の被当接部251は、第1の被記録材給送路21の一部を構成している。被記録材1は、副走査方向Yの方向に案内部材25に向かって給送され、案内部材25の第1の被当接部251に接しながら第1の被記録材給送路21を進行し、搬送駆動ローラ53と搬送従動ローラ54の間に挟まれ、搬送駆動ローラ53の回転力により副走査方向Yに搬送される。そして、図3の(b)に示すように、被記録材1は、キャリッジ61とブラテン52の間を副走査方向Yに搬送されながら、記録ヘッド62が被記録材1にインクを吐出することで被

記録材1に記録が行われ、排出駆動ローラ55と排出従動ローラ56により排出される。

【0031】このようにして、自動トレイ23から給送される記録紙等の柔軟性のある被記録材1は、案内部材25が第1の位置に既定された状態で構成されている第1の被記録材給送路21に給送され、副走査方向Yへ搬送される。

【0032】図4は、上述の記録装置50において、手動トレイ24から記録紙等の十分に柔軟性のある被記録材1が給送され、被記録材搬送手段により搬送される際の案内部材25と被記録材1との関わりを示した概略の側面図である。図4の(a)は、手動トレイ24に被記録材1が、手差しで給送された状態を示している。図4の(a)に示すように、被記録材1の先端は、まず、第2の被当接部252に接しながら第2の被当接部252の斜面を乗り越え、つづいて第1の被当接部251と接しながら副走査方向Yの方向に案内部材25に向かって給送され、案内部材25の第1の被当接部251に接しながら進行し、搬送駆動ローラ53と搬送従動ローラ54の間に挟まれ、搬送駆動ローラ53の回転力により副走査方向Yに搬送される。そして、図4の(b)に示すように、被記録材1は、キャリッジ61とブラテン52の間を副走査方向Yに搬送されながら、記録ヘッド62が被記録材1にインクを吐出することで被記録材1に記録が行われ、排出駆動ローラ55と排出従動ローラ56により排出される。

【0033】このようにして、手動トレイ24から給送される記録紙等の柔軟性のある被記録材1は、その先端が第1の位置に既定された案内部材25の第1の被当接部251、および第2の被当接部252に接しながら、即ち案内部材25の第1の被当接部251および第2の被当接部252と関わりつつ、案内部材25を乗り越えて第2の被記録材給送路24を進行して、副走査方向Yに搬送される。

【0034】図5は、上述の記録装置50において、手動トレイ24から厚紙等の硬い材質の被記録材1が給送され、被記録材搬送手段により搬送される際の案内部材25と被記録材1との関わりを示した概略の側面図である。図5の(a)は、手動トレイ24に被記録材1が、手差しで給送された状態を示している。図5の(a)に示すように、被記録材1の先端は、まず、第2の被当接部252に接し、被記録材1が硬く柔軟性が無いため、案内部材25は、第2の被当接部252の斜面が押され、それにより符号aの示す矢印の方向に押し下げられることになる。つづいて、被記録材1は、その先端が案内部材25を符号aの矢印の方向に押し下げながら、副走査方向Yに進行し、第1の被当接部251は、被記録材1と接しながら第2の被記録材給送路22の一部を構成した状態になり、搬送駆動ローラ53と搬送従動ローラ54の間に挟まれ、搬送駆動ローラ53の回転力によ

り副走査方向Yに搬送される。そして、図5の(b)に示すように、第2の被記録材給送路22は直線経路状態となり、被記録材1は、キャリッジ61とプラテン52の間を副走査方向Yに搬送されながら、記録ヘッド62が被記録材1にインクを吐出することで被記録材1に記録が行われ、排出駆動ローラ55と排出従動ローラ56により排出される。

【0035】このようにして、手動トレイ24から給送される厚紙等の硬い材質の被記録材1は、その先端が第1の位置に既定された案内部材25の第2の被当接部252を押動し、案内部材25を第2の位置に押し下げること、案内部材25は、直線経路をなす第2の被記録材給送路24の一部を構成する。そして、被記録材1は、案内部材25を第2の位置に押し下げたまま、案内部材25に接しながら第2の被記録材給送路24を進行して、副走査方向Yに搬送される。

【0036】図6の(a)は、当該実施の形態における案内部材25の平面図で、図6の(b)は、その正面図である。そして、図7は、その側面図である。

【0037】第1の被当接部251と、第2の被当接部252から成る被記録材が接する面には、複数のリブが設けられている。ストッパ253は、案内部材25の中央部近傍と、両端部近傍の3カ所に設けられ、案内部材25の揺動の上限位置を規制している。付勢手段26であるコイルスプリングを取り付けるコイルスプリング取付部255は、案内部材25の中央部近傍と、両端部近傍の3カ所に設けられ、この3カ所に取り付けられたコイルスプリングにより案内部材25は、第1の位置に付勢されるとともに、案内部材25の幅方向の中央部近傍が下方にたわむことを防止している。また、規制部256により案内部材25は、所定の位置に規制され、案内部材25の両端に設けられた軸受け部254にて、搬送駆動ローラ53に軸支される。

【0038】これらにより、本願発明に係る被記録材案内手段によれば、案内部材25が、その一端が搬送駆動ローラ53に軸支されて、そこを支点に案内部材25の他端側が上下に揺動可能な状態で、コイルスプリングによる付勢手段26により既定の位置に付勢され、その既定の位置である第1の位置において、第1の被記録材給送路の一部を構成し、その揺動可能範囲の第2の位置において、第2の被記録材給送路の一部を構成する第1の被当接部251を有していることで、第1の被記録材給送路21と第2の被記録材給送路22との手動切換手段を必要としない。そして、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを防止することが可能となる。

【0039】また、他の実施の形態としては、上記実施の形態に加えて、自動トレイ23と、手動トレイ24とそれぞれに被記録材検知手段を設け、手動トレイ24に

設けた被記録材検知手段により被記録材1が検知されたときは、自動トレイ23から被記録材1が給送されないような手段を設けることも可能である。これにより、手動トレイ24に被記録材1がセットされたときは、自動トレイ23にセットされた被記録材1は給送されず、手動トレイ24に被記録材1がセットされていないときは、自動トレイ23にセットされた被記録材1が給送されるという記録装置50の構成が可能となる。従って、上記実施の形態における被記録材案内手段の作用効果に加えて、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを、より確実に防止することが可能となる。

【0040】

【発明の効果】本願発明によれば、第1の被記録材給送路と第2の被記録材給送路とを有する記録装置において、被記録材給送路手動切換手段を必要としない被記録材案内手段により、被記録材給送路を変更する際の記録装置の操作を不要にし、記録を実行しようとした被記録材が給送された給送路と、異なる給送路に給送された別の被記録材に誤って記録してしまうことを防止することが可能となる。

【図面の簡単な説明】

【図1】本願発明に係る被記録材案内手段を備えた記録装置の概略の平面図である。

【図2】本願発明に係る被記録材案内手段を備えた記録装置の概略の側面図である。

【図3】自動トレイから被記録材が給送され、被記録材搬送手段により搬送される際の案内部材と被記録材との関わりを示した概略の側面図である。

【図4】手動トレイから記録紙等の十分に柔軟性のある被記録材が給送される際の案内部材と被記録材との関わりを示した概略の側面図である。

【図5】手動トレイから厚紙等の硬い材質の被記録材が給送される際の案内部材と被記録材との関わりを示した概略の側面図である。

【図6】(a)は本実施の形態における案内部材の平面図で、(b)はその正面図である。

【図7】本実施の形態における案内部材の側面図である。

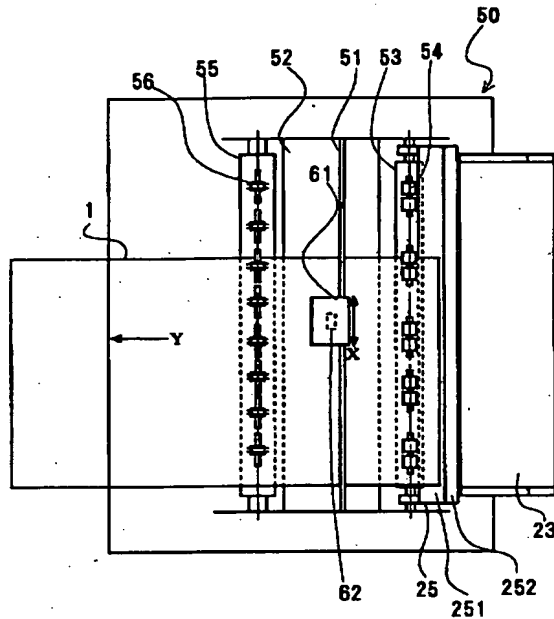
【符号の説明】

- 1 被記録材
- 21 第1の被記録材給送路
- 22 第2の被記録材給送路
- 23 自動トレイ
- 24 手動トレイ
- 25 案内部材
- 26 付勢手段
- 51 キャリッジガイド軸
- 52 プラテン

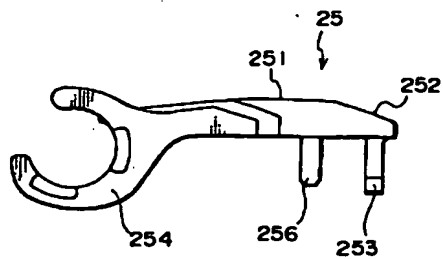
11

- 53 搬送駆動ローラ
- 54 搬送従動ローラ
- 55 排出駆動ローラ
- 56 排出従動ローラ
- 61 キャリッジ
- 62 記録ヘッド
- 251 第1の被当界面

【図1】



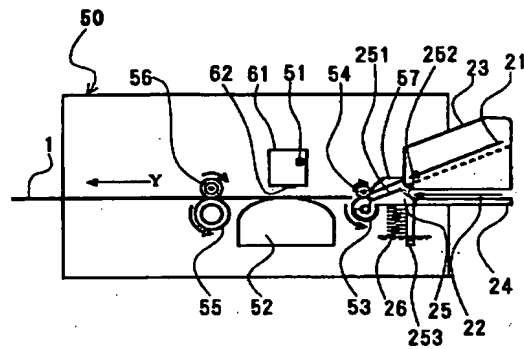
【図7】



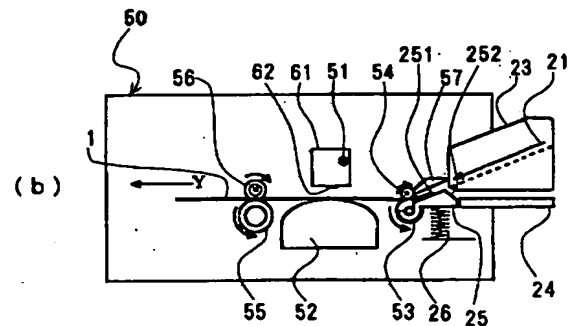
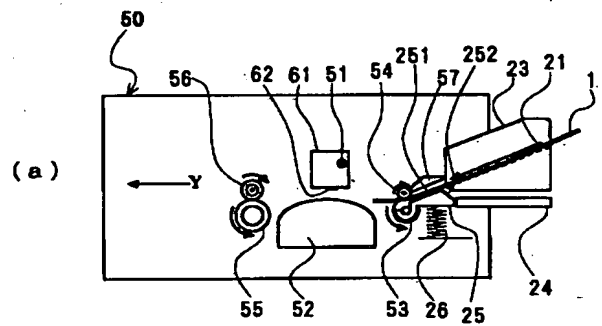
12

- 252 第2の被当界面
- 253 ストップ
- 254 軸受け部
- 255 コイルスプリング取付部
- 256 規制部
- X 主走査方向
- Y 副走査方向

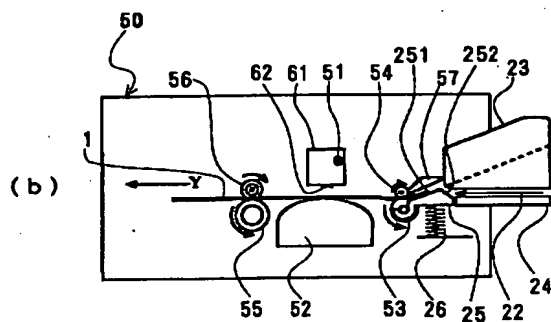
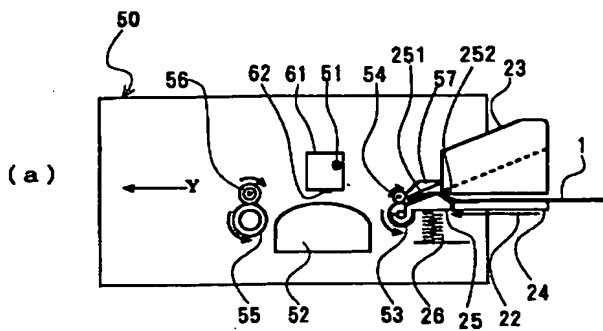
【図2】



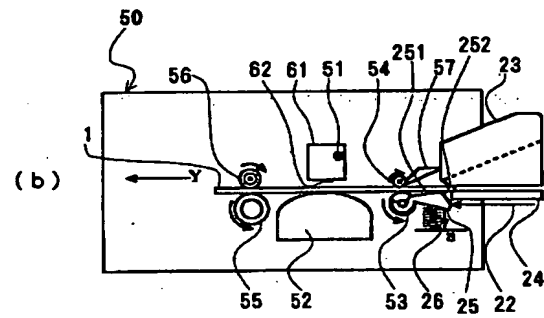
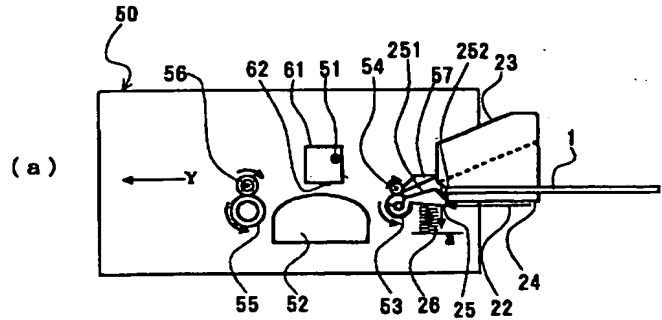
【図3】



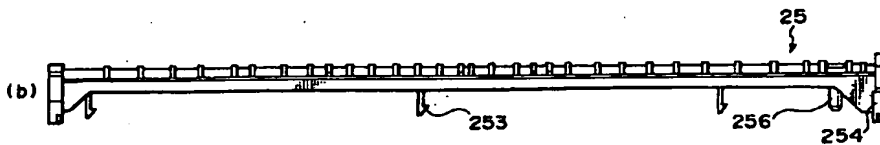
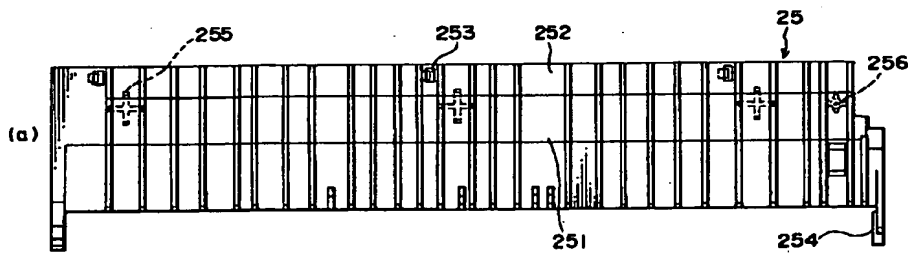
【図4】



【図5】



【図6】



フロントページの続き

(72)発明者 田島 裕之
長野県諏訪市大和3丁目3番5号 セイコ
ーエプソン株式会社内

(72)発明者 石原 研二郎
長野県諏訪市大和3丁目3番5号 セイコ
ーエプソン株式会社内

(72)発明者 橋内 浩二
長野県諏訪市大和3丁目3番5号 セイコ
ーエプソン株式会社内

(72)発明者 磯野 正博
長野県諏訪市大和3丁目3番5号 セイコ
ーエプソン株式会社内

Fターム(参考) 3F101 FA01 FB01 FB02 FC07 FC12
FC14 FE02 LA07
3F343 FA02 FB04 FC04 FC17 GA02
GB01 GB02 GC01 GD01 HB02
HB03 HC05 HC30 KB06 KB17
LA04 LA15

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The 1st recorded material feed way, the 2nd recorded material feed way, and said 1st recorded material feed way and said 2nd recorded material feed way join. It is a recorded material guidance means in the recording device equipped with a recorded material guidance means to guide the recorded material with which is prepared in the location used as a common recorded material conveyance way, and it is fed from said 1st recorded material feed way and said 2nd recorded material feed way. With the recorded material which said recorded material guidance means is held [recorded material] in the 1st location which constitutes said 1st recorded material feed way in a fixed condition, and has said 2nd recorded material feed way conveyed this -- the recorded material guidance means characterized by what was constituted movable by the 2nd location which constitutes the 2nd recorded material feed way.

[Claim 2] In claim 1 said recorded material guidance means It consists of interior material of a proposal formed rockable up and down, and an energization means to energize this interior material of a proposal in said 1st location in the rockable range of this interior material of a proposal. Said interior material of a proposal The 1st contacted section which constitutes said a part of 1st recorded material feed way in said 1st location, and constitutes said a part of 2nd recorded material feed way in the 2nd location of said rockable range, It has the 2nd contacted section formed by being pushed at the tip of a recorded material fed with said 2nd recorded material feed way so that said interior material of a proposal might be pushed caudad. Said interior material of a proposal A recorded material guidance means by which fixed was carried out to said 1st location by said energization means, and said interior material of a proposal was characterized by what is pushed by said 2nd location because the tip of said recorded material fed with said 2nd recorded material feed way pushes said 2nd contacted section.

[Claim 3] It is the recorded material guidance means which said recording device rotated in the direction of vertical scanning, was equipped with the recorded material conveyance roller which conveys said recorded material on said recorded material conveyance way in claims 1 or 2, and was characterized by what the end of said interior material of a proposal is supported to revolve for by the revolving shaft of said recorded material conveyance roller.

[Claim 4] Said recording device is the recorded material guidance means characterized by what said 1st recorded material feed way is fed with said recorded material by automatic feeding equipment in any 1 term of claims 1-3, and said 2nd recorded material feed way is manually fed with said recorded material for.

[Claim 5] It is the recorded material guidance means characterized by what is been an energization means according [on any 1 term of claims 1-4, and / said energization means] to a coil spring.

[Claim 6] It is the recorded material guidance means which said interior material of a proposal consisted of one member which has a long picture appearance crosswise [of said recorded material] in claim 5, and was characterized by what said coil spring is arranged for so that it may not bend near the central part of said interior material of a proposal caudad and the energization force by said coil spring may act.

[Claim 7] It is the recorded material guidance means characterized by what it has for the means which carries out fixed [of the 1st location / in / on any 1 term of claims 1-6, and / in said recorded material guidance means / the rockable range of said interior material of a proposal].

[Claim 8] The 1st recorded material feed way, the 2nd recorded material feed way, and said 1st recorded material feed way and said 2nd recorded material feed way join. It is a recorded material guidance means in the recording device equipped with a recorded material guidance means to guide the recorded material with which is prepared in the location used as a common recorded material conveyance way, and it is fed from said 1st recorded material feed way and said 2nd recorded material feed way. Said recorded material guidance means is a recorded material guidance means characterized by what was constituted so that it might advance the tip of the recorded material which has said 2nd recorded material feed way conveyed being concerned with this recorded material guidance means.

[Claim 9] The recording device characterized by what any 1 term of claims 1-8 is equipped with the recorded material guidance means of a publication for.

[Translation done.]

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] In the recording device which has the 1st recorded material feed way and the 2nd recorded material feed way, the 1st recorded material feed way and the 2nd recorded material feed way join, and it is related with a recorded material guidance means to guide the recorded material fed with the 1st recorded material feed way and the 2nd recorded material feed way which were established in the location used as a common recorded material conveyance way, and the recording device equipped with it.

[0002]

[Description of the Prior Art] The recording device which has the 1st recorded material feed way and the 2nd recorded material feed way has the composition that the 1st recorded material feed way is generally fed with the recorded material put on the recorded material feed tray by automatic feeding equipment, and the 2nd recorded material feed way is manually fed with a recorded material by manual bypass.

[0003] And the 1st recorded material feed way and the 2nd recorded material feed way joined, and it had the interior material of a proposal which switches two feed ways to the location used as a common recorded material conveyance way, and it was made to move up and down by the change-over lever in which the interior material of a proposal was prepared by the recording apparatus, and it has the recorded material feed way manual-switching means which switches the 1st recorded material feed way and the 2nd recorded material feed way by operating a change-over lever manually.

[0004]

[Problem(s) to be Solved by the Invention] However, whenever such a recorded material feed way manual-switching means changes a recorded material feed way, it must operate a change-over lever, and actuation of a recording device becomes complicated. Moreover, there is a possibility of mistaking the manual operation by the change-over lever, it will record on another recorded material with which the feed way fed with the recorded material which was going to perform record by this, and a different feed way were fed accidentally, and the problem of making a recorded material useless will arise.

[0005] In the recording device with which the technical problem of the invention in this application has the 1st recorded material feed way and the 2nd recorded material feed way With the recorded material guidance means which does not need a recorded material feed way manual-switching means Actuation of the recording device at the time of changing a recorded material feed way is made unnecessary, and it is in preventing what is accidentally recorded on another recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned technical problem, invention of a publication to this application claim 1 The 1st recorded material feed way, the 2nd recorded material feed way, and said 1st recorded material feed way and said 2nd recorded material feed way join. It is a recorded material guidance means by which the recording device equipped with a recorded material guidance means to guide the recorded material with which is prepared in the

location used as a common recorded material conveyance way, and it is fed from said 1st recorded material feed way and said 2nd recorded material feed way can be set. With the recorded material which this recorded material guidance means is held [recorded material] in the 1st location which constitutes said 1st recorded material feed way in a fixed condition, and has said 2nd recorded material feed way conveyed this -- it is the recorded material guidance means characterized by what was constituted movable by the 2nd location which constitutes the 2nd recorded material feed way. Here, it means that the recorded material guidance means concerned is constituted at the conveying [convey / "it is constituted movable with the recorded material which has the 2nd recorded material feed way conveyed by the 2nd location which constitutes the 2nd recorded material feed way", and / the 2nd recorded material feed way, and / in the state of a straight line]-mostly-rigid high form of pasteboard etc. case so that it may be depressed with the form.

[0007] By this the recorded material guidance means concerning invention given in this application claim 1 With being constituted movable with the recorded material which has the 2nd recorded material feed way conveyed by the 2nd location which constitutes the 2nd recorded material feed way There is no need of switching a recorded material feed way manually, actuation of the recording device at the time of changing a recorded material feed way is made unnecessary, and what is accidentally recorded on another recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed can be prevented.

[0008] Invention given in this application claim 2 is set to claim 1. Said recorded material guidance means It consists of interior material of a proposal formed rockable up and down, and an energization means to energize this interior material of a proposal in said 1st location in the rockable range of this interior material of a proposal. Said interior material of a proposal The 1st contacted section which constitutes said a part of 1st recorded material feed way in said 1st location, and constitutes said a part of 2nd recorded material feed way in the 2nd location of said rockable range, It has the 2nd contacted section formed by being pushed at the tip of a recorded material fed with said 2nd recorded material feed way so that said interior material of a proposal might be pushed caudad. Said interior material of a proposal It is a recorded material guidance means by which fixed was carried out to said 1st location by said energization means, and said interior material of a proposal was characterized by what is pushed by said 2nd location because the tip of said recorded material fed with said 2nd recorded material feed way pushes said 2nd contacted section.

[0009] Thus, when the recorded material guidance means concerning invention given in this application claim 2 feeds the 2nd recorded material feed way with a recorded material, the tip of the recorded material pushes the 2nd contacted section of the interior material of a proposal and the interior material of a proposal is pushed by the 2nd location, the operation effectiveness of the recorded material guidance means of a publication can be acquired to this application claim 1.

[0010] Invention given in this application claim 3 rotates said recording device in the direction of vertical scanning in claims 1 or 2, and is equipped with the recorded material conveyance roller which conveys said recorded material on said recorded material conveyance way, and the end of said interior material of a proposal is the recorded material guidance means characterized by what is supported to revolve by the revolving shaft of said recorded material conveyance roller.

[0011] According to the recorded material guidance means concerning invention given in this application claim 3, by this In the operation effectiveness of a recorded material guidance means given in this application claims 1 or 2, because in addition, it is the configuration which the interior material of a proposal rocks up and down in rotation centering on the revolving shaft of a recorded material feed roller Also on the 1st recorded material feed way, the 2nd recorded material feed way, and which recorded material feed way, it becomes possible to guide a recorded material so that the position of a recorded material feed roller may be reached in a recorded material.

[0012] Invention given in this application claim 4 is a recorded material guidance means by which said recording device was characterized by what is manually fed with said recorded material on said 2nd recorded material feed way by feeding said 1st recorded material feed way with said recorded material by automatic feeding equipment, in any 1 term of claims 1-3.

[0013] A recording device is considered as the above configurations, the 1st recorded material feed way is fed with a recorded material with high operating frequency with automatic feeding equipment, the 2nd recorded material feed way is manually fed with a recorded material if needed,

and the frequency where the interior material of a proposal is pushed by the 2nd location decreases by performing record. Therefore, according to the recorded material guidance means concerning invention given in this application claim 4, in addition to the operation effectiveness of the recorded material guidance means of a publication, feed of a more efficient recorded material is attained at any 1 term of this application claims 1-3.

[0014] Invention given in this application claim 5 is the recorded material guidance means characterized by what said energization means is an energization means by the coil spring in any 1 term of claims 1-4.

[0015] Thus, when acquiring the suitable energization force in this energization means, implementation of this regulatory mechanism in the case of preparing accommodation of the energization force or the regulatory mechanism of the energization force becomes easy, and the operation effectiveness of the higher invention in this application is acquired, because it is an energization means by the coil spring.

[0016] Invention of a publication is constituted from one member which has a long picture [the cross direction of said recorded material] interior material [said / of a proposal] appearance by this application claim 6 in claim 5, and said coil spring is the recorded material guidance means characterized by what is arranged so that the energization force by said coil spring may act, as it does not bend near the central part of said interior material of a proposal caudad.

[0017] Thereby, in case a recorded material is conveyed with a conveyance roller, being conveyed near the center of a recorded material in the condition of having bent caudad is lost. According to the recorded material guidance means concerning invention given in this application claim 6, deterioration of the record quality produced by being conveyed in the condition of having bent near the center of a recorded material in this application claim 5 in addition to the operation effectiveness of the recorded material guidance means of a publication can be prevented.

[0018] Invention given in this application claim 7 is the recorded material guidance means characterized by what said recorded material guidance means is equipped with the means which carries out fixed [of the 1st location in the rockable range of said interior material of a proposal] for in any 1 term of claims 1-6.

[0019] Thereby, according to the recorded material guidance means concerning invention given in this application claim 7, in addition to the operation effectiveness of a recorded material guidance means given in any 1 term of this application claims 1-6, it becomes possible to carry out fixed [of the 1st location in the rockable range of the interior material of a proposal] in a higher precision in a suitable location.

[0020] Invention of a publication to this application claim 8 The 1st recorded material feed way and the 2nd recorded material feed way, Said 1st recorded material feed way and said 2nd recorded material feed way join. It is a recorded material guidance means in the recording device equipped with a recorded material guidance means to guide the recorded material with which is prepared in the location used as a common recorded material conveyance way, and it is fed from said 1st recorded material feed way and said 2nd recorded material feed way. This recorded material guidance means is a recorded material guidance means characterized by what was constituted so that it might advance the tip of the recorded material which has said 2nd recorded material feed way conveyed being concerned with this recorded material guidance means. Here, as it mentions later "it advances, the tip of a recorded material being concerned with this recorded material guidance means", in the case of the rigid high form of pasteboard etc., it is meant that the recorded material guidance means concerned is depressed with the rigidity, and it goes on, and gets over and goes on in the case of a soft form, without hardly depressing the recorded material guidance means concerned.

[0021] According to the recorded material guidance means concerning invention given in this application claim 8, the tip of the recorded material which has the 2nd recorded material feed way conveyed by this with being constituted so that it may go on being concerned with a recorded material guidance means There is no need of switching a recorded material feed way manually, actuation of the recording device at the time of changing a recorded material feed way is made unnecessary, and what is accidentally recorded on another recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed can be prevented.

[0022] Invention given in this application claim 9 is the recording device characterized by what it has a recorded material guidance means given in any 1 term of claims 1-8 for.

[0023] According to the recording device concerning invention given in this application claim 9, in a recording device, the operation effectiveness by the recorded material guidance means given in any 1 term of this application claims 1-8 mentioned above can be acquired.

[0024]

[Embodiment of the Invention] Hereafter, the gestalt of operation of the invention in this application is explained based on a drawing. Drawing 1 is the top view of the outline of the recording device equipped with the recorded material guidance means concerning the invention in this application, and drawing 2 R> 2 is the side elevation of the outline.

[0025] It is supported to revolve by the carriage guide shaft 51 and the carriage 61 which moves to a main scanning direction X, and a platen 52 are formed in the recording apparatus 50. The recording head 62 which records on a recorded material 1 by breathing out ink being carried in carriage 61, conveying carriage 61 to a main scanning direction X, and conveying a recorded material 1 in the direction Y of vertical scanning between carriage 61 and a platen 52, record is performed to a recorded material 1 because a recording head 62 carries out the regurgitation of the ink to a recorded material 1. Moreover, the conveyance driving roller 53 and the conveyance follower roller 54 are formed as a recorded material conveyance means to convey a recorded material 1 in the direction Y of vertical scanning. The roll control of the conveyance driving roller 53 is carried out by rotation driving force, such as a stepping motor, and a recorded material 1 is conveyed in the direction Y of vertical scanning by rotation of the conveyance driving roller 53. The conveyance follower roller 54 is followed and rotated to conveyance of a recorded material 1 in contact with a recorded material 1, in case more than one are prepared, it is separately energized by the conveyance driving roller 53, respectively and a recorded material 1 is conveyed by rotation of the conveyance driving roller 53.

[0026] The discharge driving roller 55 and the discharge follower roller 56 are formed as a means to, discharge the recorded recorded material 1 on the other hand. The roll control of the discharge driving roller 55 is carried out by rotation driving force, such as a stepping motor, and a recorded material 1 is discharged by rotation of the discharge driving roller 55 in the direction Y of vertical scanning. Two or more discharge follower rollers 56 are formed, have two or more gear teeth around, and are the rollers with a gear tooth which are sharply sharp so that the tip of each gear tooth may carry out point contact to the recording surface of a recorded material 1. And in case it is separately energized by the discharge driving roller 55 by the energization force weaker than the energization force of the conveyance follower roller 54, respectively and a recorded material 1 is discharged by rotation of the discharge driving roller 55, in contact with a recorded material 1, it follows and rotates to discharge of a recorded material 1.

[0027] Moreover, the 1st recorded material feed way 21 which equipped the recording device 50 with the well-known automatic tray 23, and the 2nd recorded material feed way 22 which feeds with a recorded material 1 in manual bypass from a detachable tray 24 are formed. The recorded material automatic feeding means which changes from the hopper which makes a recorded material feed roller carry out the pressure welding of the tip of a recorded material 1 to the recorded material feed roller which feeds the 1st recorded material feed way 21 with a recorded material 1, and which is not illustrated, and which is not illustrated to the automatic tray 23 is established. It has composition which can set beforehand two or more fully supply recorded materials 1 to the automatic tray 23, and is automatically fed with one recorded material 1 at a time from this automatic tray 23 in a fixed condition at the time of record activation. In case it records on the recorded material 1 of the quality of the material without the flexibility of the pasteboard with which it cannot feed from the automatic tray 23, a detachable tray 24 is used, while setting one recorded material 1 at a time manually and feeding with it if needed.

[0028] The 1st recorded material feed way 21 and the 2nd recorded material feed way 22 join, and the interior material 25 of a proposal to which it shows the recorded material guidance 57 and the recorded material 1 with which it is fed from the 1st recorded material feed way 21 and the 2nd recorded material feed way 22 is formed in the location used as a common recorded material conveyance way. The end is supported to revolve by the conveyance driving roller 53, the interior material 25 of a proposal is in a condition with the up and down rockable other end side of the

interior material 25 of a proposal, and the supporting point energizes that with the energization means 26 by the coil spring in the fixed location. And the coil spring was prepared so that the energization force in which it does not bend near [the] the central part caudad might act to the interior material 25 of a proposal, and it has prevented deterioration of the record quality produced by it. In addition, it can also constitute from establishing a means to adjust the energization force of this coil spring if needed so that it may be possible to tune the energization force finely.

[0029] Moreover, in the 1st location which is the fixed location, the interior material 25 of a proposal constitutes a part of 1st recorded material feed way, and has the 1st contacted section 251 which constitutes a part of 2nd recorded material feed way in the 2nd location of the rockable range. Furthermore, the interior material 25 of a proposal has the 2nd contacted section 252 formed by being pushed at the tip of the recorded material 1 with which the 2nd recorded material feed way is fed so that the interior material 25 of a proposal might be pushed caudad. And it was regulated by the stopper 253 and the recorded material 1 pushed up the interior material 25 of a proposal by that cause, a recorded material 1 is got blocked or the interior material 25 of a proposal has prevented damaging a recorded material guidance means so that it may not rock more nearly up than the 1st location.

[0030] Drawing 3 is the side elevation of an outline having shown relation by the interior material 25 of a proposal at the time of being fed with a recorded material 1 from the automatic tray 23, and being conveyed by the recorded material conveyance means, and the recorded material 1 in the above-mentioned recording device 50. (a) of drawing 3 shows the condition of having been fed with the recorded material 1 set to the automatic tray 23 by the recorded material automatic feeding means. The interior material 25 of a proposal is in the condition energized by the 1st location of a fixed condition, and the 1st contacted section 251 constitutes a part of 1st recorded material feed way 21. It is fed with a recorded material 1 in the direction of the direction Y of vertical scanning toward the interior material 25 of a proposal, and it runs the 1st recorded material feed way 21, touching the 1st contacted section 251 of the interior material 25 of a proposal, is inserted between the conveyance driving roller 53 and the conveyance follower roller 54, and is conveyed in the direction Y of vertical scanning on the turning effort of the conveyance driving roller 53. And as shown in (b) of drawing 3, conveying between carriage 61 and platens 52 in the direction Y of vertical scanning, record is performed to a recorded material 1 because a recording head 62 carries out the regurgitation of the ink to a recorded material 1, and a recorded material 1 is discharged with the discharge driving roller 55 and the discharge follower roller 56.

[0031] Thus, the 1st recorded material feed way 21 constituted where fixed [of the interior material 25 of a proposal] is carried out to the 1st location is fed with the recorded material 1 with the flexibility of the recording paper with which it is fed from the automatic tray 23, and it is conveyed in the direction Y of vertical scanning. [0032] Drawing 4 is the side elevation of an outline having shown relation by the interior material 25 of a proposal at the time of being fed with the fully supplied recorded materials 1, such as the recording paper, from the manual tray 24, and being conveyed by the recorded material conveyance means, and the recorded material 1 in the above-mentioned recording device 50. (a) of drawing 4 shows the condition of having been fed with the recorded material 1 by manual bypass to the manual tray 24. As shown in (a) of drawing 4, the tip of a recorded material 1 First, the slant face of the 2nd contacted section 252 is overcome, touching the 2nd contacted section 252. It is fed in the direction of the direction Y of vertical scanning toward the interior material 25 of a proposal, touching the 1st contacted section 251 continuously. It goes on touching the 1st contacted section 251 of the interior material 25 of a proposal, is inserted between the conveyance driving roller 53 and the conveyance follower roller 54, and is conveyed in the direction Y of vertical scanning on the turning effort of the conveyance driving roller 53. And as shown in (b) of drawing 4, conveying between carriage 61 and platens 52 in the direction Y of vertical scanning, record is performed to a recorded material 1 because a recording head 62 carries out the regurgitation of the ink to a recorded material 1, and a recorded material 1 is discharged with the discharge driving roller 55 and the discharge follower roller 56.

[0033] Thus, the recorded material 1 with the flexibility of the recording paper with which it is fed from the manual tray 24 Touching the 1st contacted section 251 of the interior material 25 of a proposal by which fixed [of the tip] was carried out to the 1st location, and the 2nd contacted

section 252 Namely, being concerned with the 1st contacted section 251 of the interior material 25 of a proposal, and the 2nd contacted section 252, the interior material 25 of a proposal is overcome, the 2nd recorded material feed way 24 is gone on, and it is conveyed in the direction Y of vertical scanning.

[0034] Drawing 5 is the side elevation of an outline having shown relation by the interior material 25 of a proposal at the time of being fed with the recorded material 1 of the hard quality of the materials, such as pasteboard, from the manual tray 24, and being conveyed by the recorded material conveyance means, and the recorded material 1 in the above-mentioned recording device 50. (a) of drawing 5 shows the condition of having been fed with the recorded material 1 by manual bypass to the manual tray 24. As shown in (a) of drawing 5, in order for the tip of a recorded material 1 to touch the 2nd contacted section 252 and to be [a recorded material 1 is hard and] inflexible first, the slant face of the 2nd contacted section 252 will be pushed, and the interior material 25 of a proposal will be depressed in the direction of the arrow head which Sign a shows by that cause. Continuously, a recorded material 1 runs in the direction Y of vertical scanning, while the tip depresses the interior material 25 of a proposal in the direction of the arrow head of Sign a, and a part of 2nd recorded material feed way 22 will be constituted the 1st contacted section 251, touching a recorded material 1, it is inserted between the conveyance driving roller 53 and the conveyance follower roller 54, and is conveyed in the direction Y of vertical scanning on the turning effort of the conveyance driving roller 53. And as shown in (b) of drawing 5, the 2nd recorded material feed way 22 will be in a straight-line path condition, conveying between carriage 61 and platens 52 in the direction Y of vertical scanning, record is performed to a recorded material 1 because a recording head 62 carries out the regurgitation of the ink to a recorded material 1, and a recorded material 1 is discharged with the discharge driving roller 55 and the discharge follower roller 56.

[0035] Thus, the recorded material 1 of the hard quality of the materials, such as pasteboard with which it is fed from the manual tray 24, pushes the 2nd contacted section 252 of the interior material 25 of a proposal by which fixed [of the tip] was carried out to the 1st location, it is depressing the interior material 25 of a proposal in the 2nd location, and the interior material 25 of a proposal constitutes a part of 2nd recorded material feed way 24 which makes a straight-line path. And a recorded material 1 runs the 2nd recorded material feed way 24, touching the interior material 25 of a proposal, depressing the interior material 25 of a proposal in the 2nd location, and is conveyed in the direction Y of vertical scanning.

[0036] (a) of drawing 6 is the top view of the interior material 25 of a proposal in the gestalt of the operation concerned, and (b) of drawing 6 is the front view. And drawing 7 is the side elevation.

[0037] Two or more ribs are prepared in the field where the recorded material which consists of the 1st contacted section 251 and the 2nd contacted section 252 touches. The stopper 253 was formed in three near the both ends near the center section of the interior material 25 of a proposal, and has regulated the upper limit location of rocking of the interior material 25 of a proposal. The coil spring attachment section 255 which attaches the coil spring which is the energization means 26 was formed in three near the both ends near the center section of the interior material 25 of a proposal, and it has prevented bending near the center section of the cross direction of the interior material 25 of a proposal caudad while the interior material 25 of a proposal is energized by the 1st location by the coil spring attached in these three places. Moreover, the interior material 25 of a proposal is regulated by the position by the specification part 256, and it is supported to revolve with the bearing 254 formed in the both ends of the interior material 25 of a proposal by the conveyance driving roller 53.

[0038] According to the recorded material guidance means concerning the invention in this application, by these, the end is supported to revolve for the interior material 25 of a proposal by the conveyance driving roller 53. That at the supporting point the other end side of the interior material 25 of a proposal in the rockable condition up and down in the 1st location which it is energized by the fixed location with the energization means 26 by the coil spring, and is the fixed location The manual-switching means of the 1st recorded material feed way 21 and the 2nd recorded material feed way 22 is not needed by having the 1st contacted section 251 which constitutes a part of 1st recorded material feed way, and constitutes a part of 2nd recorded material feed way in the 2nd location of the rockable range. And it becomes possible to prevent what is accidentally recorded on another

recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed.

[0039] Moreover, when a recorded material 1 is detected by the recorded material detection means which formed the recorded material detection means in the automatic tray 23, the manual tray 24, and each as a gestalt of other operations in addition to the gestalt of the above-mentioned implementation, and was formed in the manual tray 24, it is also possible to establish a means with which it is not fed with a recorded material 1 from the automatic tray 23. When it is not fed and the recorded material 1 is not set to the manual tray 24, the configuration of the recording device 50 of being fed with the recorded material 1 set to the automatic tray 23 of the recorded material 1 set to the automatic tray 23 by this when a recorded material 1 was set to the manual tray 24 is attained. Therefore, it becomes possible to prevent more certainly about recording on another recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed accidentally in addition to the operation effectiveness of the recorded material guidance means in the gestalt of the above-mentioned implementation.

[0040]

[Effect of the Invention] In the recording device which has the 1st recorded material feed way and the 2nd recorded material feed way according to the invention in this application With the recorded material guidance means which does not need a recorded material feed way manual-switching means Actuation of the recording device at the time of changing a recorded material feed way is made unnecessary, and it becomes possible to prevent what is accidentally recorded on another recorded material with which the feed way fed with the recorded material which was going to perform record, and a different feed way were fed.

[Translation done.]

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the top view of the outline of the recording device equipped with the recorded material guidance means concerning the invention in this application.

[Drawing 2] It is the side elevation of the outline of the recording device equipped with the recorded material guidance means concerning the invention in this application.

[Drawing 3] It is the side elevation of an outline having shown relation by the interior material of a proposal at the time of being fed with a recorded material from an automatic tray, and being conveyed by the recorded material conveyance means, and the recorded material.

[Drawing 4] It is the side elevation of an outline having shown relation by the interior material of a proposal at the time of being fed with fully supplied recorded materials, such as the recording paper, from a manual tray, and the recorded material.

[Drawing 5] It is the side elevation of an outline having shown relation by the interior material of a proposal at the time of being fed with the recorded material of the hard quality of the materials, such as pasteboard, from a manual tray, and the recorded material.

[Drawing 6] (a) is the top view of the interior material of a proposal in the gestalt of this operation, and (b) is the front view.

[Drawing 7] It is the side elevation of the interior material of a proposal in the gestalt of this operation.

[Description of Notations]

1 Recorded Material

21 1st Recorded Material Feed Way

22 2nd Recorded Material Feed Way

23 Automatic Tray

24 Manual Tray

25 Interior Material of Proposal

26 Energization Means

51 Carriage Guide Shaft

52 Platen

53 Conveyance Driving Roller

54 Conveyance Follower Roller

55 Discharge Driving Roller

56 Discharge Follower Roller

61 Carriage

62 Recording Head

251 1st Contacted Field

252 2nd Contacted Field

253 Stopper

254 Bearing

255 Coil Spring Attachment Section

256 Specification Part

X Main scanning direction

Y The direction of vertical scanning

[Translation done.]

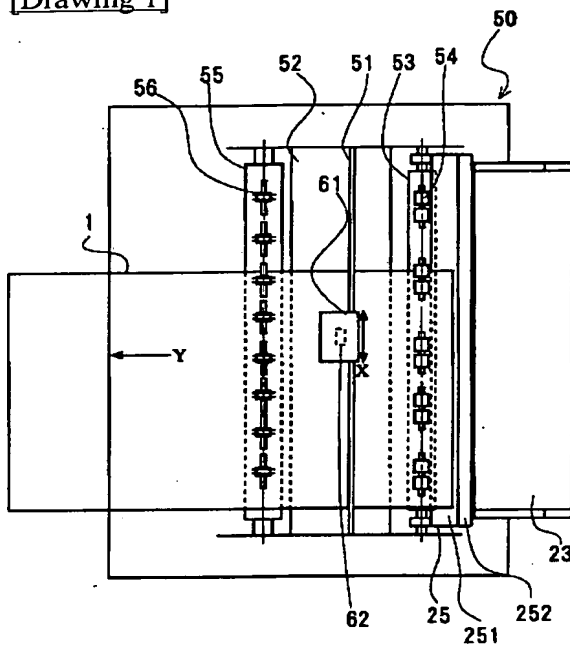
* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

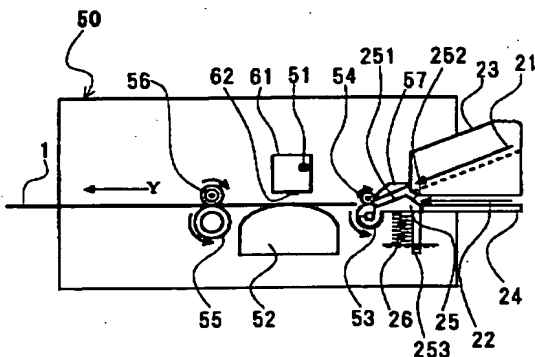
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

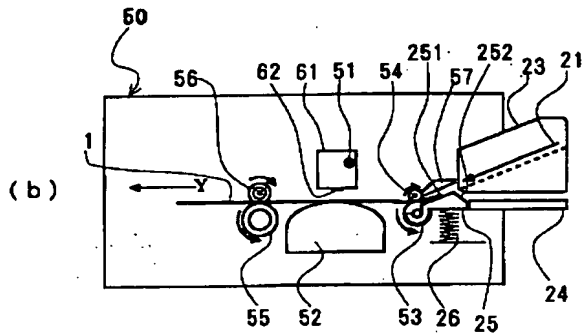
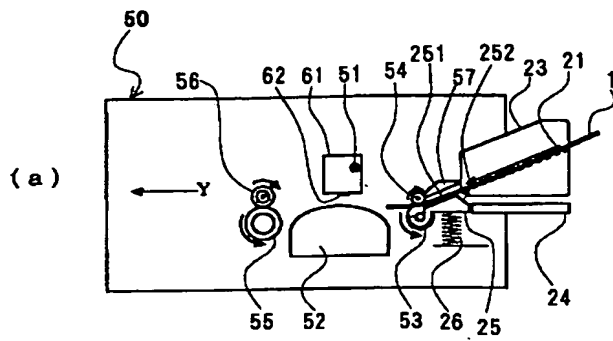
[Drawing 1]



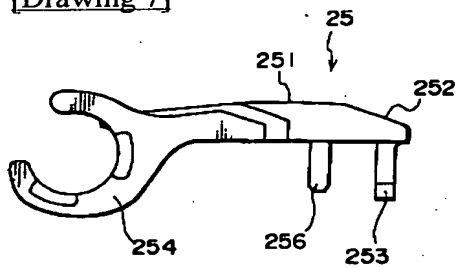
[Drawing 2]



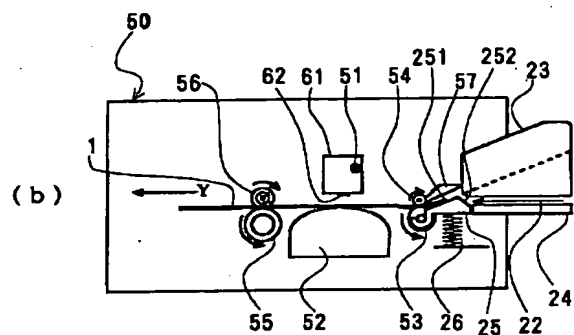
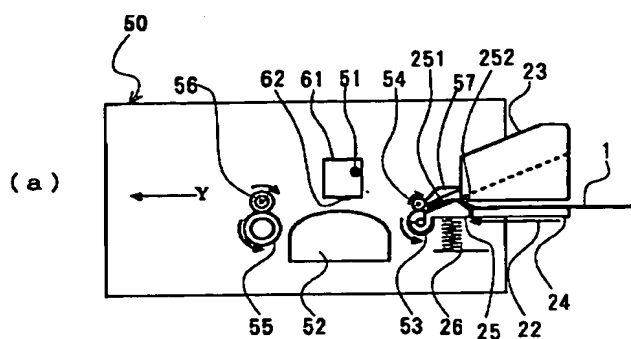
[Drawing 3]



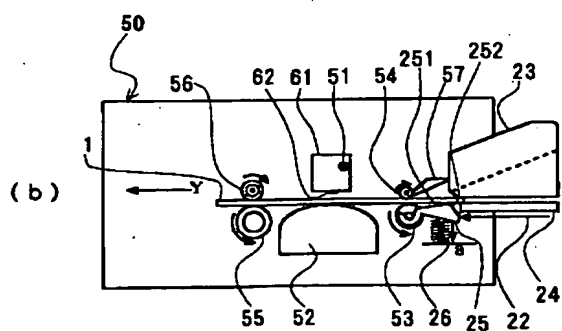
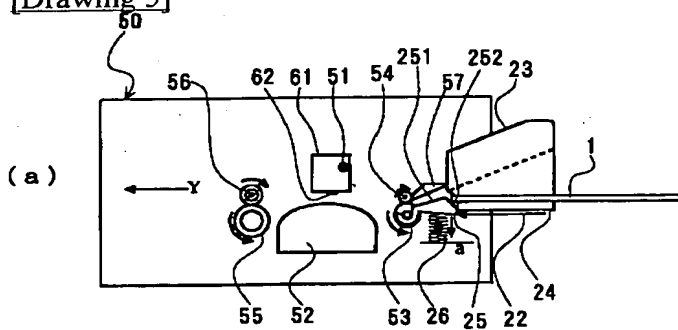
[Drawing 7]



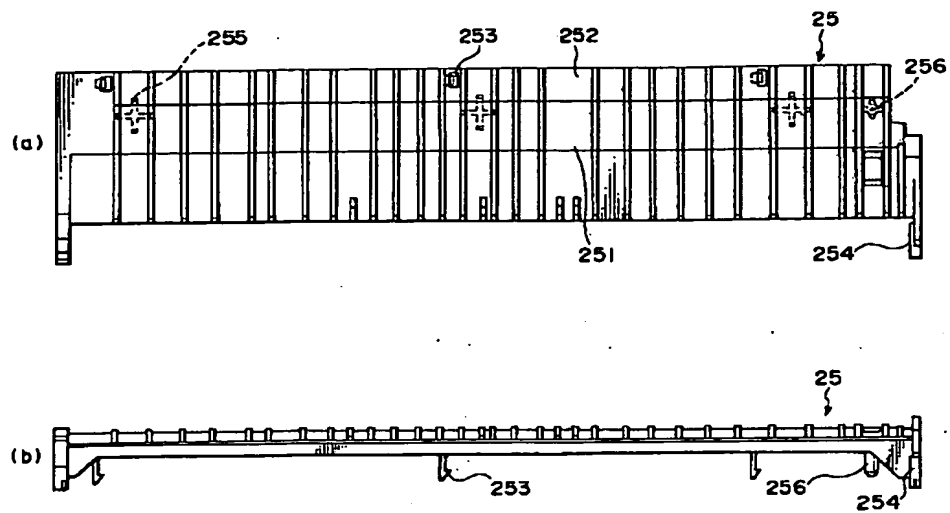
[Drawing 4]



[Drawing 5]



[Drawing 6]



[Translation done.]

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☒ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.